FIG.1

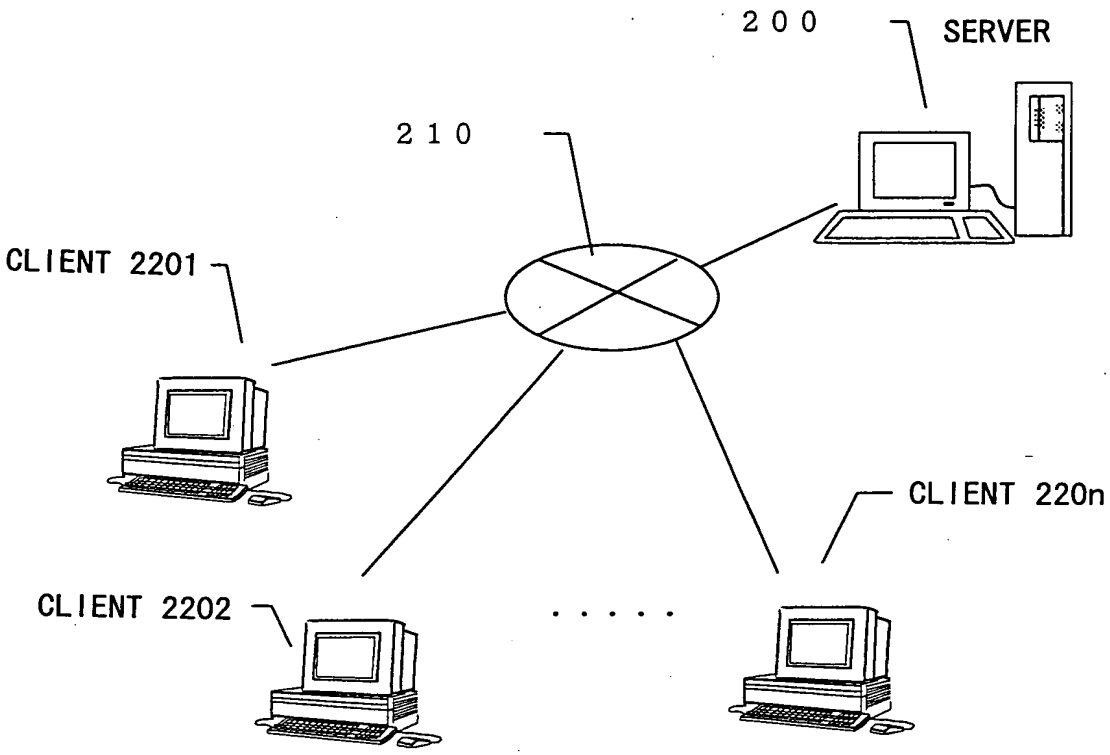


FIG. 2 PRIOR ART

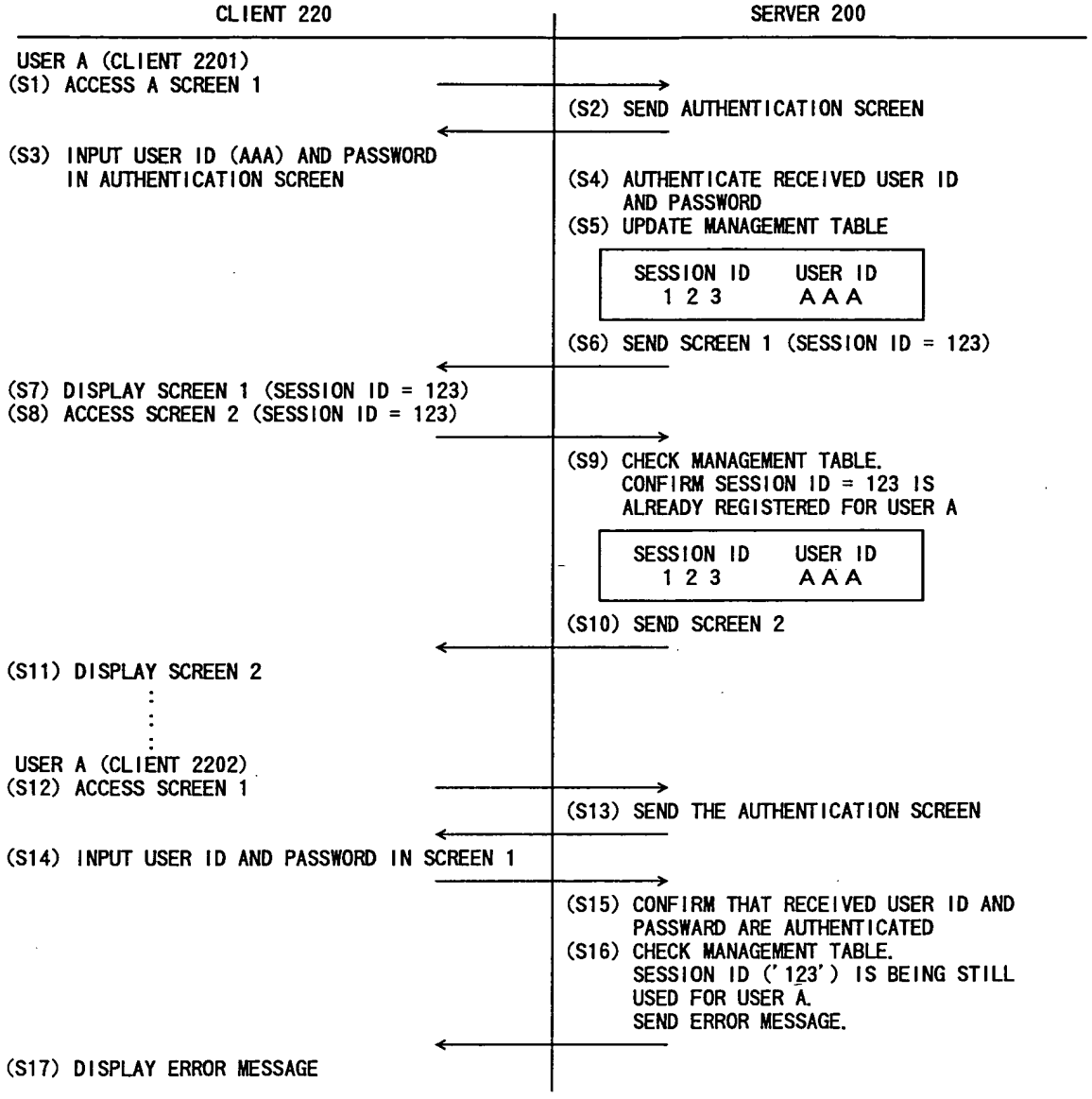


FIG.3

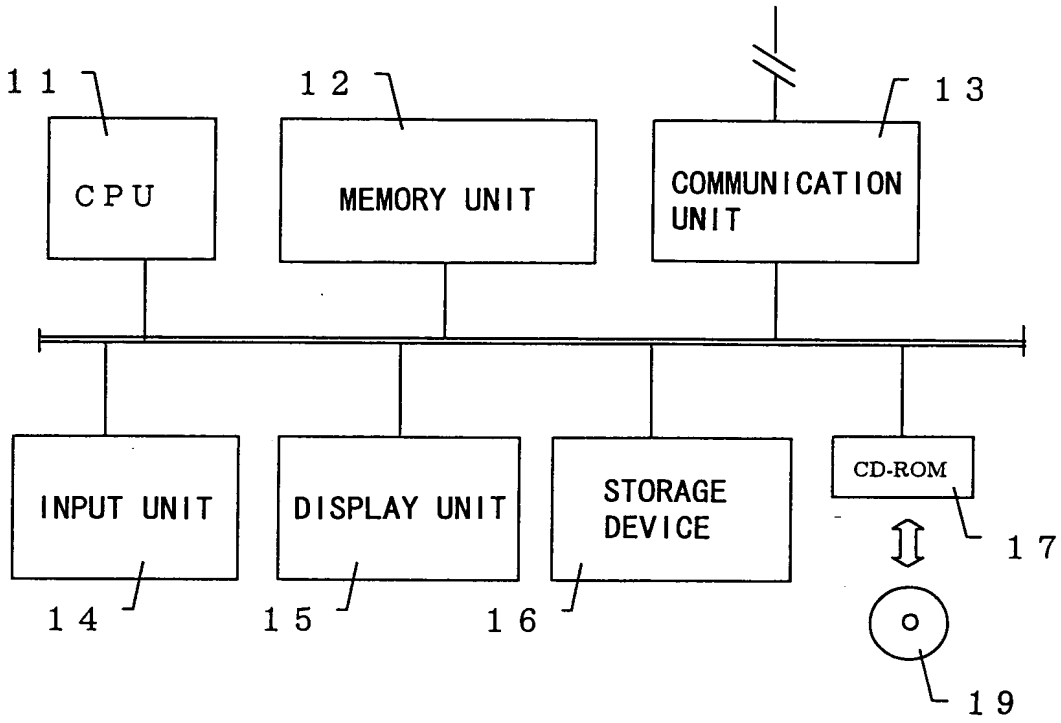

11
12
13
CPU
MEMORY UNIT
COMMUNICATION UNIT
INPUT UNIT
DISPLAY UNIT
STORAGE DEVICE
CD-ROM
14
15
16
17
19

FIG.4

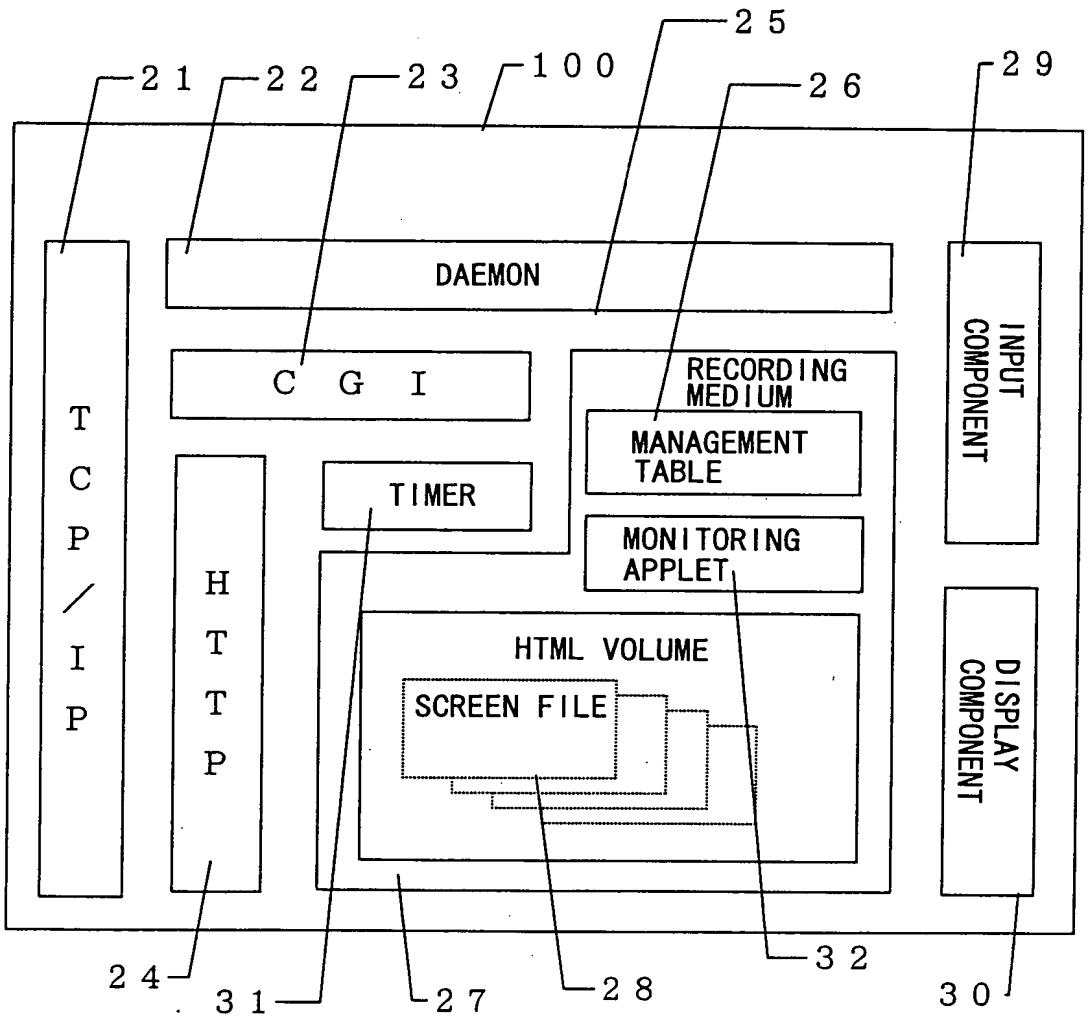

21
22
23
100
25
26
29
DAEMON
CGI
RECORDING MEDIUM
MANAGEMENT TABLE
TIMER
MONITORING APPLET
HTML VOLUME
SCREEN FILE
TCP/IP
HTTP
INPUT COMPONENT
DISPLAY COMPONENT
24
31
27
28
32
30

FIG. 5

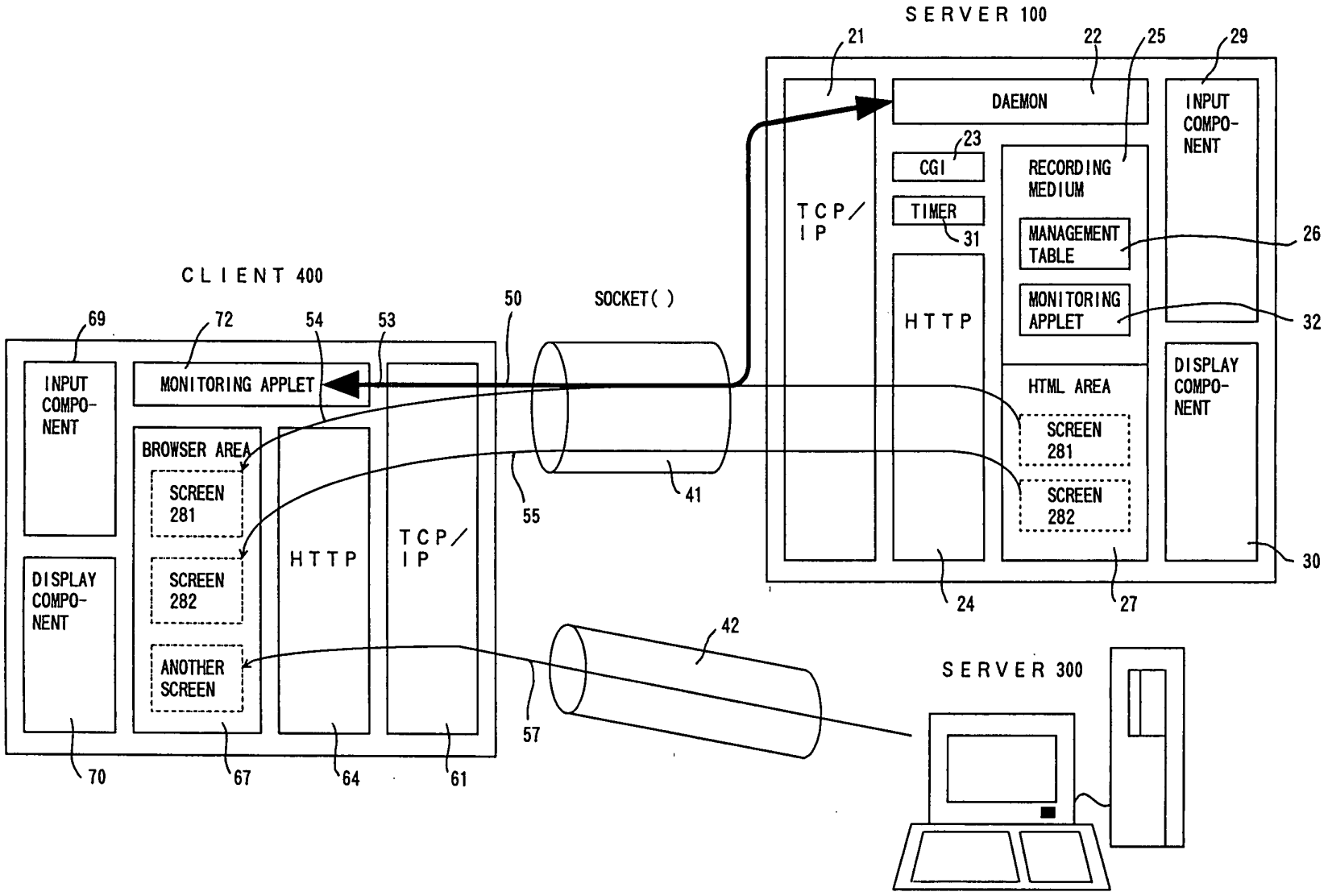

SERVER 100
21
22
25
29
DAEMON
INPUT COMPO-NENT
23
CGI
RECORDING MEDIUM
TCP/IP
TIMER
31
MANAGEMENT TABLE
26
MONITORING APPLET
32
HTTP
HTML AREA
SCREEN 281
SCREEN 282
DISPLAY COMPO-NENT
30
24
27
CLIENT 400
69
72
54
53
50
SOCKET( )
INPUT COMPO-NENT
MONITORING APPLET
BROWSER AREA
SCREEN 281
SCREEN 282
ANOTHER SCREEN
HTTP
TCP/IP
DISPLAY COMPO-NENT
55
41
42
57
SERVER 300
70
67
64
61

FIG. 6

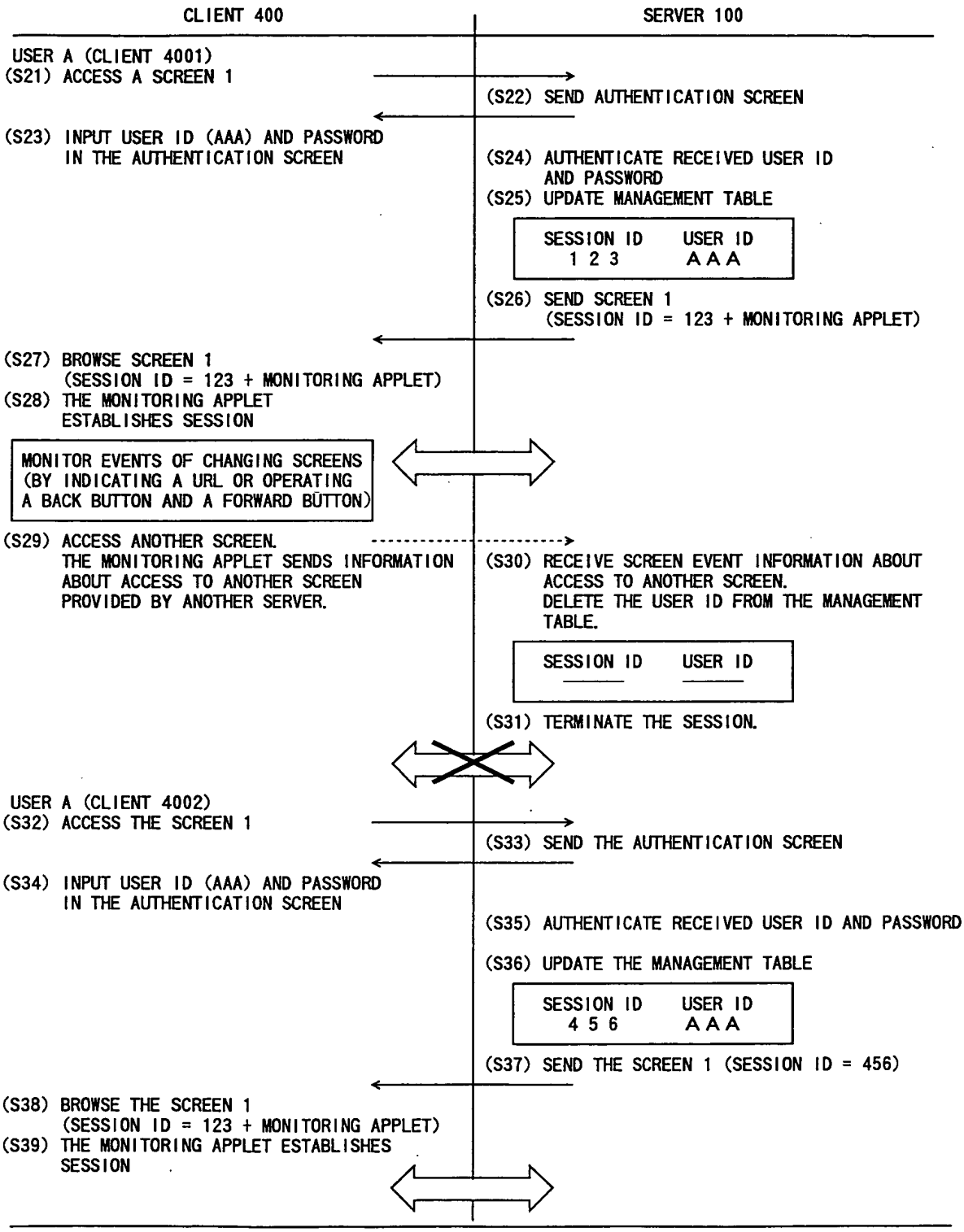

CLIENT 400
SERVER 100
USER A (CLIENT 4001)
(S21) ACCESS A SCREEN 1
(S22) SEND AUTHENTICATION SCREEN
(S23) INPUT USER ID (AAA) AND PASSWORD IN THE AUTHENTICATION SCREEN
(S24) AUTHENTICATE RECEIVED USER ID AND PASSWORD
(S25) UPDATE MANAGEMENT TABLE
SESSION ID 1 2 3
USER ID A A A
(S26) SEND SCREEN 1 (SESSION ID = 123 + MONITORING APPLET)
(S27) BROWSE SCREEN 1 (SESSION ID = 123 + MONITORING APPLET)
(S28) THE MONITORING APPLET ESTABLISHES SESSION
MONITOR EVENTS OF CHANGING SCREENS (BY INDICATING A URL OR OPERATING A BACK BUTTON AND A FORWARD BUTTON)
(S29) ACCESS ANOTHER SCREEN. THE MONITORING APPLET SENDS INFORMATION ABOUT ACCESS TO ANOTHER SCREEN PROVIDED BY ANOTHER SERVER.
(S30) RECEIVE SCREEN EVENT INFORMATION ABOUT ACCESS TO ANOTHER SCREEN. DELETE THE USER ID FROM THE MANAGEMENT TABLE.
SESSION ID
USER ID
(S31) TERMINATE THE SESSION.
USER A (CLIENT 4002)
(S32) ACCESS THE SCREEN 1
(S33) SEND THE AUTHENTICATION SCREEN
(S34) INPUT USER ID (AAA) AND PASSWORD IN THE AUTHENTICATION SCREEN
(S35) AUTHENTICATE RECEIVED USER ID AND PASSWORD
(S36) UPDATE THE MANAGEMENT TABLE
SESSION ID 4 5 6
USER ID A A A
(S37) SEND THE SCREEN 1 (SESSION ID = 456)
(S38) BROWSE THE SCREEN 1 (SESSION ID = 123 + MONITORING APPLET)
(S39) THE MONITORING APPLET ESTABLISHES SESSION

FIG. 7

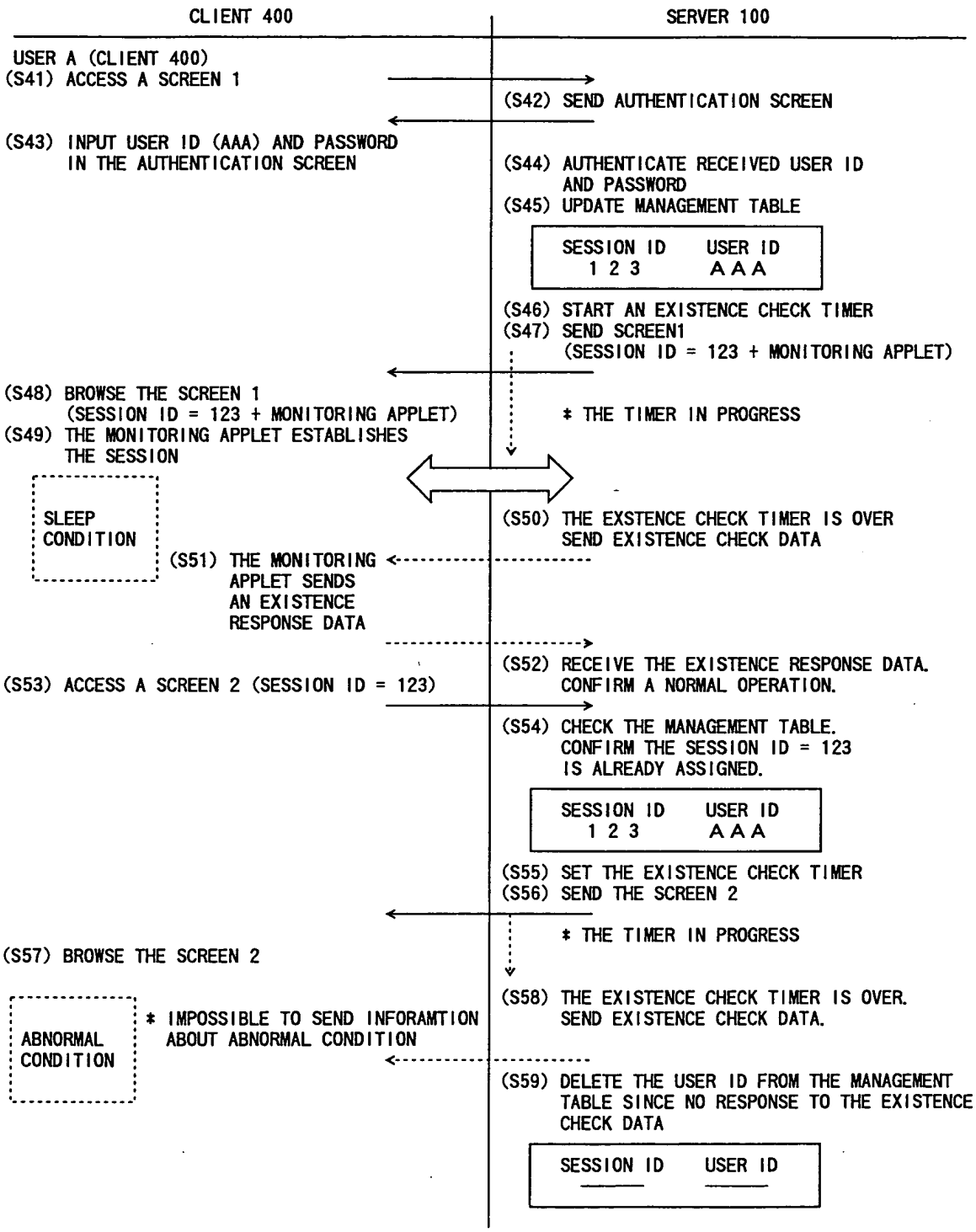

CLIENT 400
SERVER 100
USER A (CLIENT 400)
(S41) ACCESS A SCREEN 1
(S42) SEND AUTHENTICATION SCREEN
(S43) INPUT USER ID (AAA) AND PASSWORD IN THE AUTHENTICATION SCREEN
(S44) AUTHENTICATE RECEIVED USER ID AND PASSWORD
(S45) UPDATE MANAGEMENT TABLE
SESSION ID 123 USER ID AAA
(S46) START AN EXISTENCE CHECK TIMER
(S47) SEND SCREEN1 (SESSION ID = 123 + MONITORING APPLET)
(S48) BROWSE THE SCREEN 1 (SESSION ID = 123 + MONITORING APPLET)
* THE TIMER IN PROGRESS
(S49) THE MONITORING APPLET ESTABLISHES THE SESSION
SLEEP CONDITION
(S50) THE EXSTENCE CHECK TIMER IS OVER SEND EXISTENCE CHECK DATA
(S51) THE MONITORING APPLET SENDS AN EXISTENCE RESPONSE DATA
(S52) RECEIVE THE EXISTENCE RESPONSE DATA. CONFIRM A NORMAL OPERATION.
(S53) ACCESS A SCREEN 2 (SESSION ID = 123)
(S54) CHECK THE MANAGEMENT TABLE. CONFIRM THE SESSION ID = 123 IS ALREADY ASSIGNED.
SESSION ID 123 USER ID AAA
(S55) SET THE EXISTENCE CHECK TIMER
(S56) SEND THE SCREEN 2
* THE TIMER IN PROGRESS
(S57) BROWSE THE SCREEN 2
(S58) THE EXISTENCE CHECK TIMER IS OVER. SEND EXISTENCE CHECK DATA.
ABNORMAL CONDITION
* IMPOSSIBLE TO SEND INFORAMTION ABOUT ABNORMAL CONDITION
(S59) DELETE THE USER ID FROM THE MANAGEMENT TABLE SINCE NO RESPONSE TO THE EXISTENCE CHECK DATA
SESSION ID USER ID

FIG. 8

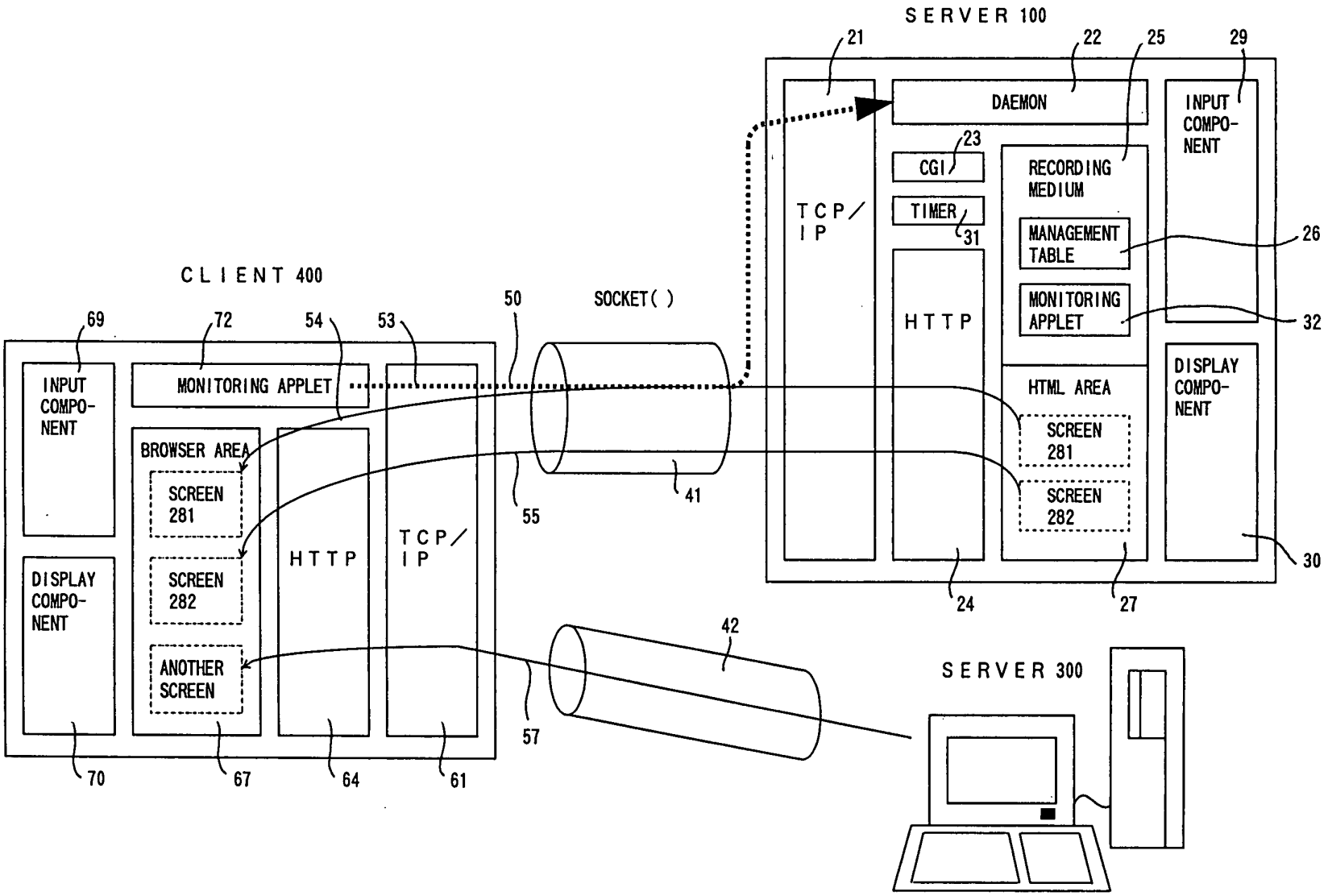
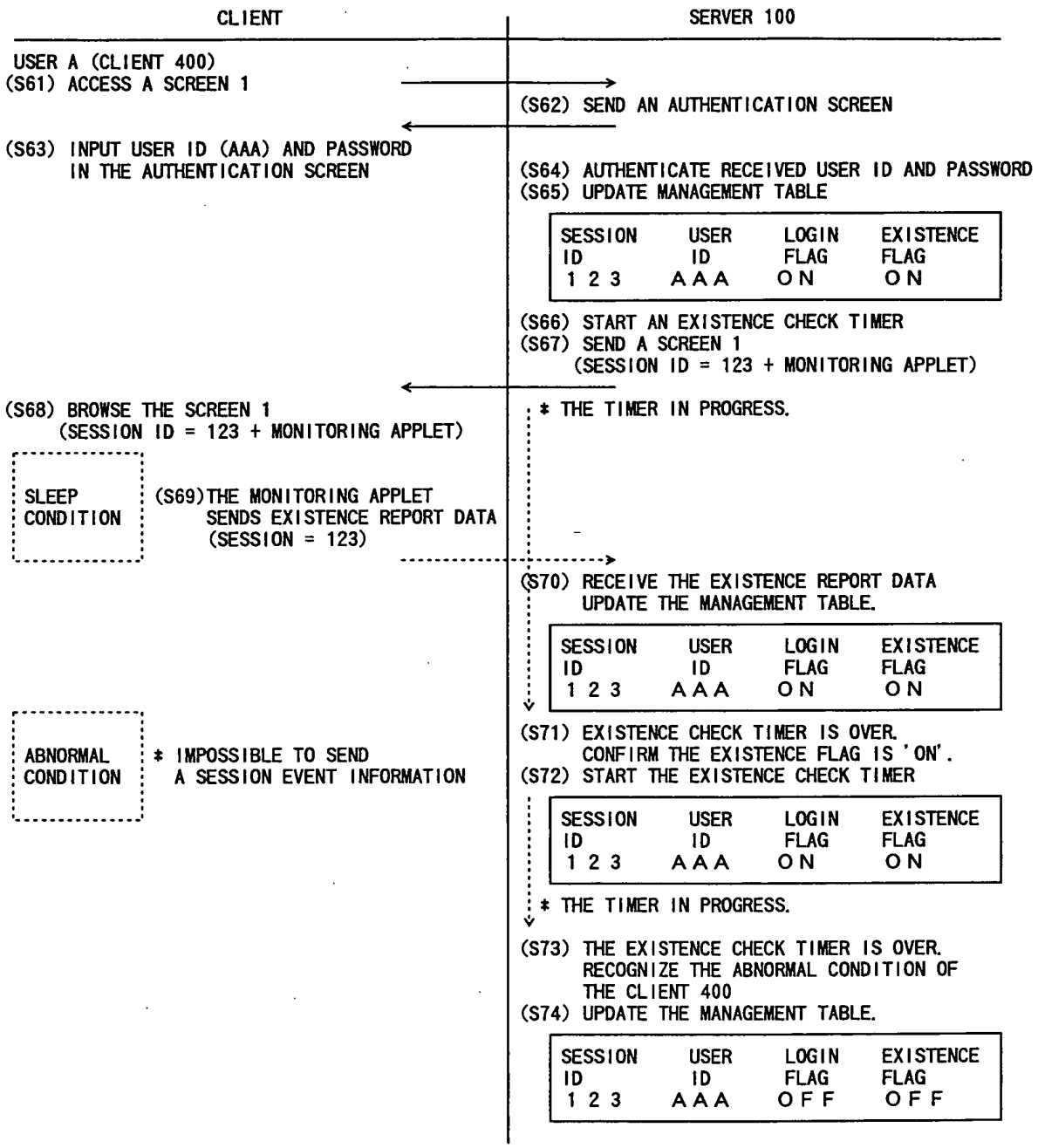

SERVER 100
21
22
25
29
DAEMON
INPUT COMPO-NENT
23
CGI
RECORDING MEDIUM
TCP/IP
TIMER
31
MANAGEMENT TABLE
26
HTTP
MONITORING APPLET
32
HTML AREA
DISPLAY COMPO-NENT
SCREEN 281
SCREEN 282
30
24
27
CLIENT 400
69
72
54
53
50
SOCKET( )
INPUT COMPO-NENT
MONITORING APPLET
BROWSER AREA
SCREEN 281
SCREEN 282
ANOTHER SCREEN
HTTP
TCP/IP
55
41
DISPLAY COMPO-NENT
42
SERVER 300
57
70
67
64
61

FIG. 9


CLIENT
SERVER 100
USER A (CLIENT 400)
(S61) ACCESS A SCREEN 1
(S62) SEND AN AUTHENTICATION SCREEN
(S63) INPUT USER ID (AAA) AND PASSWORD IN THE AUTHENTICATION SCREEN
(S64) AUTHENTICATE RECEIVED USER ID AND PASSWORD
(S65) UPDATE MANAGEMENT TABLE
SESSION ID | USER ID | LOGIN FLAG | EXISTENCE FLAG
1 2 3 | AAA | ON | ON
(S66) START AN EXISTENCE CHECK TIMER
(S67) SEND A SCREEN 1 (SESSION ID = 123 + MONITORING APPLET)
(S68) BROWSE THE SCREEN 1 (SESSION ID = 123 + MONITORING APPLET)
* THE TIMER IN PROGRESS.
SLEEP CONDITION
(S69) THE MONITORING APPLET SENDS EXISTENCE REPORT DATA (SESSION = 123)
(S70) RECEIVE THE EXISTENCE REPORT DATA UPDATE THE MANAGEMENT TABLE.
SESSION ID | USER ID | LOGIN FLAG | EXISTENCE FLAG
1 2 3 | AAA | ON | ON
ABNORMAL CONDITION
* IMPOSSIBLE TO SEND A SESSION EVENT INFORMATION
(S71) EXISTENCE CHECK TIMER IS OVER. CONFIRM THE EXISTENCE FLAG IS 'ON'.
(S72) START THE EXISTENCE CHECK TIMER
SESSION ID | USER ID | LOGIN FLAG | EXISTENCE FLAG
1 2 3 | AAA | ON | ON
* THE TIMER IN PROGRESS.
(S73) THE EXISTENCE CHECK TIMER IS OVER. RECOGNIZE THE ABNORMAL CONDITION OF THE CLIENT 400
(S74) UPDATE THE MANAGEMENT TABLE.
SESSION ID | USER ID | LOGIN FLAG | EXISTENCE FLAG
1 2 3 | AAA | OFF | OFF